

LITERATURE CITED

1. Alcock, N. L. *A root disease of the strawberry*. Gard. Chron. III, 86: 14-15. Jl. 6, 1929. No. 2219.
2. Ashby, S. F. *The production of sexual organs in pure cultures of Phytophthora cinnamomi Rands and Blepharospora cambivora Petri*. Trans. British Mycological Soc. 14: 260-262. 1929.
3. Department of Agriculture for Scotland. *Scotland: Plant disease and pests*. Intern. Rev. Agr. 22(M): 94-95. Je. 1931. No. 6. Also reprinted in Intern. Bull. Plant Prot. 5 (m): 94-95. Je. 1931. No. 6.
4. Drechsler, C. *The beet water mold and several related root parasites*. Journ. Agr. Research 38: 309-361. 1929.
5. Drechsler, C. *Repetitional diplanetism in the genus Phytophthora*. Journ. Agr. Research 40: 557-573. 1930.
6. Petri, L. *Studi sulla malattia del castagno detta "dell' inchiostro."* *Morfologia e biologia del micelio parassita*. Annali del R. Istituto superiore Forestale Nazionale Firenze. 3: 153-185. 1918.
7. Petri, L. *Osservazioni biologiche sulla "Blepharospora cambivora."* Annali del R. Istituto superiore Agrario e Forestale Firenze. Serie seconda 1: 155-161. 1925.
8. Rands, R. D. *Streepkanker van kaneel, veroorzaakt door Phytophthora cinnamomi n. sp. (Stripe canker of cinnamon, caused by Phytophthora cinnamomi n. sp.)* Meded. Inst. Plantenz. Dept. Landb. Nijv. Handel 54, 53 and 1 p. 6 pl. 1922.
9. Tucker, C. M. *Taxonomy of the genus Phytophthora de Bary*. Missouri Agr. Exp. Stat. Research Bull. 153. 208 pp. with 30 figs. in text. Je. 1931.

BOTANY.—*The Genus Chikusichloa of Japan and China.*¹ Y. L. KENG,² U. S. National Herbarium. (Communicated by A. S. HITCHCOCK.)

In 1925 *Chikusichloa* was described with a single species and was regarded as an endemic genus in Japan. This grass, however, was recently found in China and a second species as well. The new species is from the Kwangsi collection of Mr. R. C. Ching in 1928, the other from my Kiangsu (I-shing) collection in 1929.

CHIKUSICHLOA Koidz. Bot. Mag. Tokyo 39: 23. 1925. A single species, *C. aquatica* Koidz., is described from Japan.

Spikelets perfect, 1-flowered, somewhat laterally compressed or subterete, the disarticulation a short distance below the lemma, the spikelets falling with a stipe attached; glumes wanting; lemma lanceolate, attenuate into a terminal awn or acuminate, membranaceous, strongly 5-7-nerved; palea a little shorter and thinner than the lemma, 2-3-nerved; styles distinct, the stigmas laterally exerted; stamen 1, the anther linear; lodicules 2, minute; grain hard, fusiform, the pericarp adnate to the mealy seed. Aquatic peren-

¹ Received November 13, 1931.

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nials with simple culms, narrow blades, and terminal panicles.—Species 2, one in Japan and Southeastern China, the other in Southwestern China.

- A. Spikelets awned, the stipe 2-4 mm. long, usually longer than the branchlet below the joint.....1. *C. aquatica*.
 AA. Spikelets awnless, the stipe 1-2 mm. long, equaling or shorter than the branchlet below the joint.....2. *C. mutica*.

This genus belongs to the tribe Oryzeae, but approaches the American genus *Zizaniopsis*, which is differentiated from Oryzeae by the unisexual spikelets. Though the spikelets in *Chikusichloa* are all alike, those in the upper part of the panicle are usually more fruitful than those in the lower. Moreover, there seems to be a tendency toward reduction in the size of the anthers in the spikelets of the lower part of the panicle, suggesting a trend toward two kinds of spikelets, one pistillate, the other perfect. The perfect stipitate spikelets recall those of *Hygroryza*, but in that the stamens are 6, and the plant is floating, with inflated sheaths, short broad blades, and small panicles. In the original description of *Chikusichloa* the stipe remaining attached to the lemma is considered to be the elongated lower joint of the rachilla. Since here, as well as in *Hygroryza*, the glumes are wanting, it is not certain whether the stipe is an elongated rachilla-joint or the summit of a pedicel which disarticulates some distance below the spikelet. Such pedicels are characteristic of *Thysanolaena* and *Polypogon*, and are found in some species of *Trisetum*, where the presence of glumes at the apex of the stipe shows conclusively that the stipe is part of the pedicel.

CHIKUSICHLOA AQUATICA Koidz. Bot. Mag. Tokyo 39: 23. 1925

Culms tufted, erect, 0.8-1.5 meters tall, subcompressed, 3-5 mm. thick, 5-noded, the lower nodes remote, the upper ones approximate; sheaths loose, compressed-keeled, much longer than the internodes; blades 45-60 cm. long, 8-14 mm. wide, acuminate, flat or folded, deep green, rather flaccid; panicle lanceolate, erect, half to one third the length of the plant, the branches slender, ascending, up to one third the length of the panicle; spikelets dull green, 3-5 mm. long, terminating in a slender awn 3-6 mm. long, hispidulous along the nerves; stipe 2-4 mm. long, or rarely shorter, hispidulous; anther 1-1.5 mm. long; grain 2-2.5 mm. long, dark or brownish.—Shady sides of mountain streams, Japan and Southeastern China.

CHINA: Kiangsu, I-shing, *Keng* 2496.

One Japanese specimen, collected from Satsuma by Masamune in 1925, has been examined. It differs in having a stipe as much as 6 mm. long, but is similar otherwise to that of China.

***Chikusichloa mutica* Keng, sp. nov.**

Culmi caespitosi, erect, circ. 75 cm. alti, 3 mm. crassi, subcompressi, glabri; vaginae laxae, compresso-carinatae, internodiis longiores; ligula firma, glabra, 3-5 mm. longa; laminae erectae, saepe conduplicatae et falcatae, 15-40 cm.



Fig. 1. *Chikusichloa aquatica* Koitz. For explanation see page 529.

longae, expansae 10–16 mm. latae, acuminatae, firmae, glaucae, costa media superne obscura, inferne prominente; panícula contracta, linearis, 20–30 cm. longa, ramis tenuibus, alternis, erectis vel appressis, usque 7 cm. longis; spiculae anguste lanceolatae, 4 mm. longae, acuminatae, muticae, lacteae, inter nervos validos hispidulos glabrae et interdum plicatae; stipes 1–2 mm. longus, hispidulus; stamen unum, anthera usque 2 mm. longa; styli distincti, stigmatibus multo breviores.

Culms tufted, erect, about 75 cm. tall, 3 mm. thick, subcompressed, glabrous; sheaths loose, compressed-keeled, the upper ones crowded on the approximate nodes; ligule firm, glabrous, 3–5 mm. long; blades erect, usually folded and falcate, 15–40 cm. long, 10–16 mm. wide, acuminate, firm, glaucous, the midrib obscure above, prominent beneath; panicle contracted, linear, 20–30 cm. long, the branches slender, appressed, up to 7 cm. long; spikelets narrowly lanceolate, 4 mm. long, acuminate, awnless, rarely mucronulate, creamy-white, glabrous and sometimes folded between the hispidulous strong nerves; stipe 1–2 mm. long, hispidulous, equaling or more frequently shorter than the glabrous branchlet below the joint; stamen 1, the anther up to 2 mm. long; styles distinct, much shorter than the stigmas.

Type in the Herbarium of the Metropolitan Museum of Natural History, Academia Sinica, Nanking, China, collected by the side of a stream in ravine, Seh Fing Dar Shan, Nanning, Kwangsi, altitude 600 meters, October 24, 1928, by *R. C. Ching* (no. 8200). Duplicate type in the U. S. National Herbarium (no. 1501590).

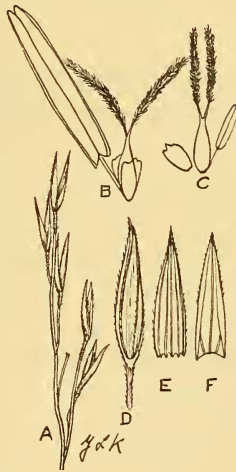


Fig. 2. *Chikusichloa mutica* Keng. A. Part of a panicle branch, $\times 2$. B. Stamen, pistil, and lodicules, drawn from a spikelet on the upper part of the panicle, $\times 10$. C. Same from a spikelet near the base of the panicle, $\times 10$. D. Spikelet and its stipe, $\times 5$. E-F. Lemma and palea, $\times 5$.

Fig. 1. *Chikusichloa aquatica* Koidz. A. Plant, $\frac{1}{2}$ natural size. B-C. Fruitful spikelets and stipes, $\times 5$. D. The articulation showing the branchlet persistent below the joint, $\times 5$. E-F. Caryopsis and its section showing the pericarp adnate to the mealy seed, $\times 5$. G. Young spikelet on the lower part of the panicle, with its lemma removed, $\times 10$.

This species is closely related to *Chikusichloa aquatica*, from which it differs chiefly in the awnless cream-white spikelets, shorter stipes, linear panicles, and in the glaucous firm blades. The specimens seen consist of the upper part of the plant, about 60 cm. long, with 4 leaves crowded above and the lower internodes 7–11 cm. long.

MAMMALOLOGY.—*Six new white-footed mice* (*Peromyscus maniculatus* group), from islands off the Pacific Coast.¹ E. W. NELSON and E. A. GOLDMAN, U. S. Biological Survey.

In *Revision of the mice of the American genus Peromyscus* (North Amer. Fauna, No. 28, pp. 96–98, Apr. 17, 1909) Osgood referred specimens from the islands of San Miguel, San Nicolas, Santa Barbara, and Santa Rosa of the Santa Barbara group, off the coast of southern California, to *Peromyscus maniculatus clementis* which was originally described from San Clemente Island. Those from Santa Cruz Island were assigned to *P. m. catalinae*, of Santa Catalina Island. Specimens from Natividad Island and San Martin Island, off the coast of Lower California, were referred (l. c., p. 100) to *P. m. geronimensis*, typical on San Geronimo Island.

More than 20 years have passed since the fine monograph mentioned was published. In commenting upon material examined from the various islands the author pointed out in several instances characters which he regarded as too slight to afford a basis for satisfactory separation. Finer distinctions are being made by many workers at the present time, and it seems to us probable that if the same reviser were reviewing this part of his work his viewpoint would be somewhat altered. Some of the islands are separated by 50 miles or more of open sea, while others lie somewhat nearer together. San Miguel and Santa Rosa Islands, with a comparatively narrow passage between them, appear to be inhabited by the same form. Study of the fairly ample material available has shown that although the characters presented in varying combinations from island to island are relatively slight they are maintained with rather remarkable constancy. Such characters are, as in many other similar places, the expression of genetic factors resulting through isolation and response to environmental influences favoring their perpetuation. These insular forms, with ranges sharply

¹ Received November 19, 1931.